Operating Instructions

STEREO DOUBLE CASSETTE DECK AMPLIFIER
DC-Z93

FM/AM DIGITAL SYNTHESIZER TUNER
F-Z93/F-Z93L

STEREO TURNTABLE
PL-Z93

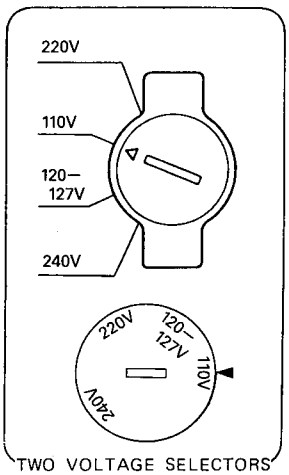
Thank you for buying this PIONEER product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

LINE VOLTAGE SELECTOR SWITCHES

Only multi-voltage models are provided with these switches. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.
Mains voltages in Saudi Arabia are 127 V and 220 V only. Never use this model with 110 V setting in Saudi Arabia.
Before your model is shipped from the factory, these switches are set to the power requirements of the destination; nevertheless, you should check that they are set properly before plugging the power cord into the AC outlet.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selectors and adjust so that the tip of the arrow points to the voltage value of your area.



TWO VOLTAGE SELECTORS

WARNING: The apparatus shall not be exposed to dripping or splashing.

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

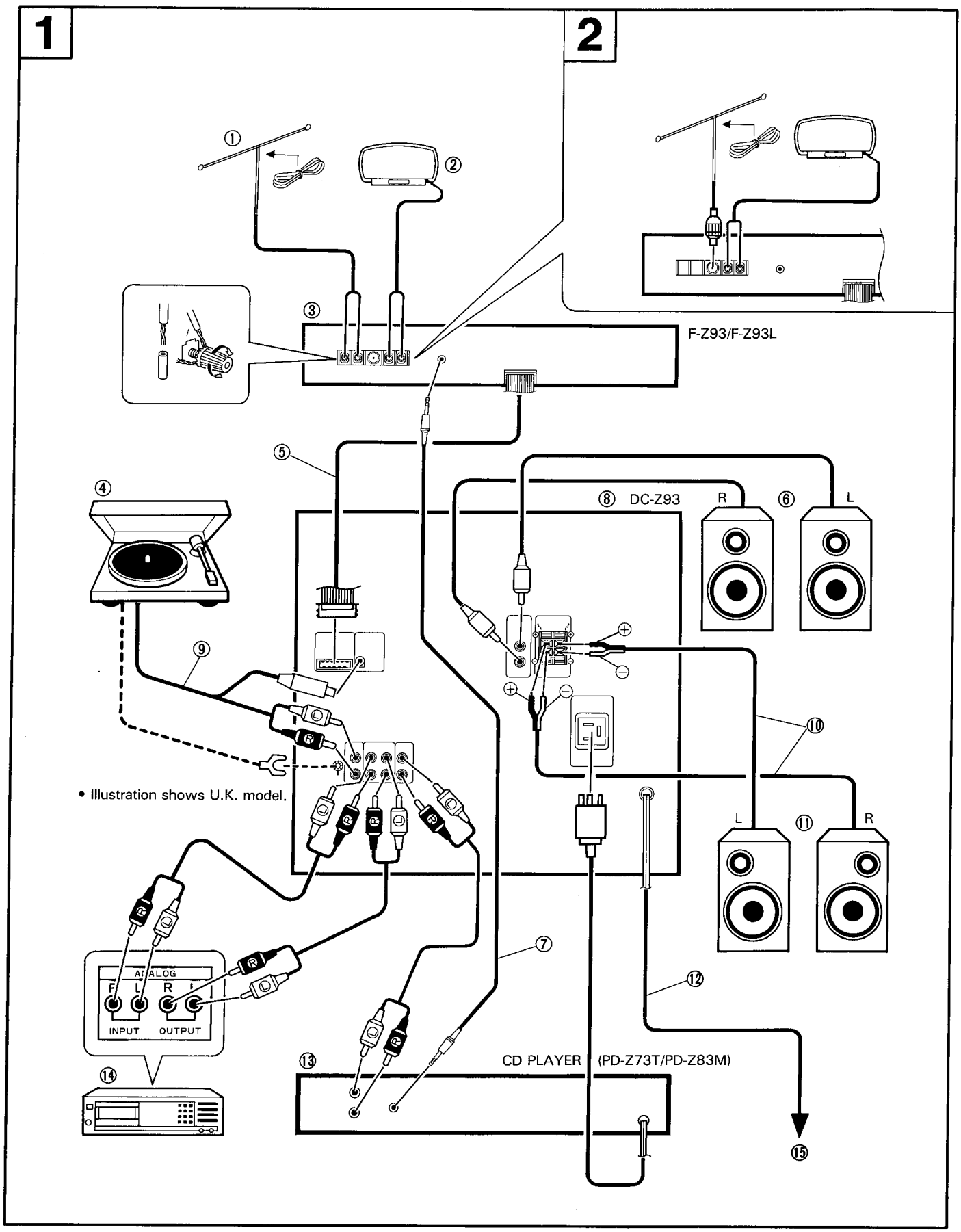
If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off.

FOR USE IN THE UNITED KINGDOM

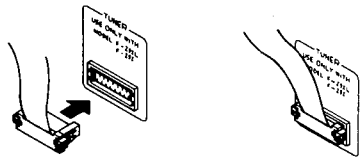
The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
Equipment sold in the U.K. is not supplied with a power plug.

PIONEER®
The future of sound and vision.


1
2
①
②
③
F-Z93/F-Z93L
④
⑤
⑥ L
⑧ DC-Z93 R
⑨
⑩
⑪ L R
⑫
⑬ CD PLAYER (PD-Z73T/PD-Z83M)
⑭
⑮
⑦
ANALOG
INPUT OUTPUT
• Illustration shows U.K. model.

3



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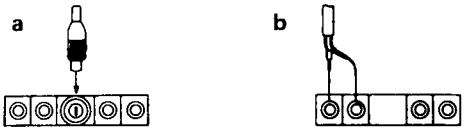

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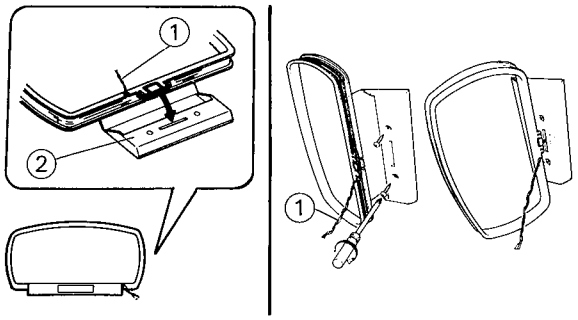

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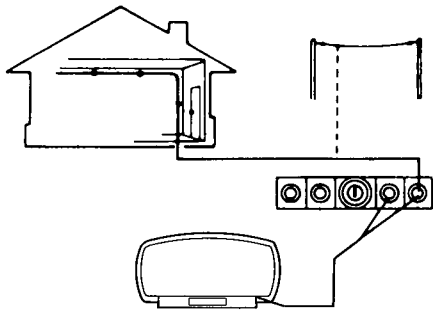

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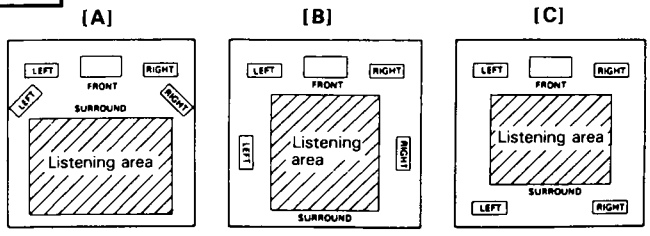

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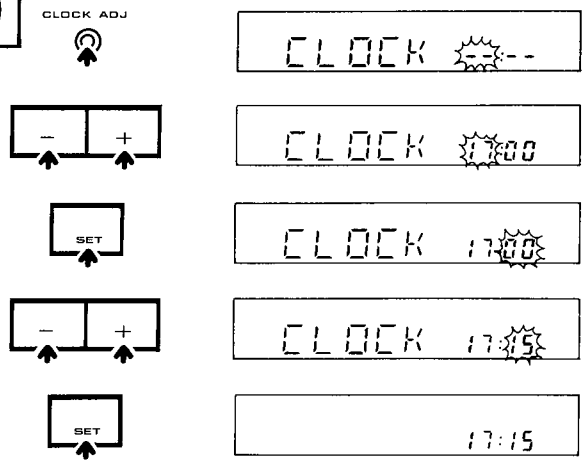

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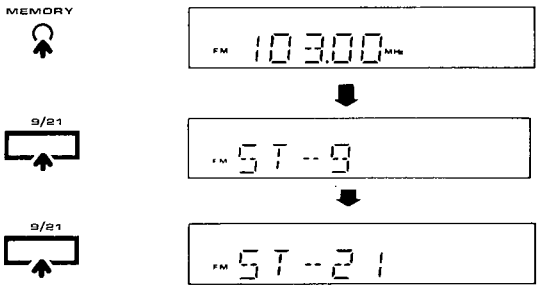

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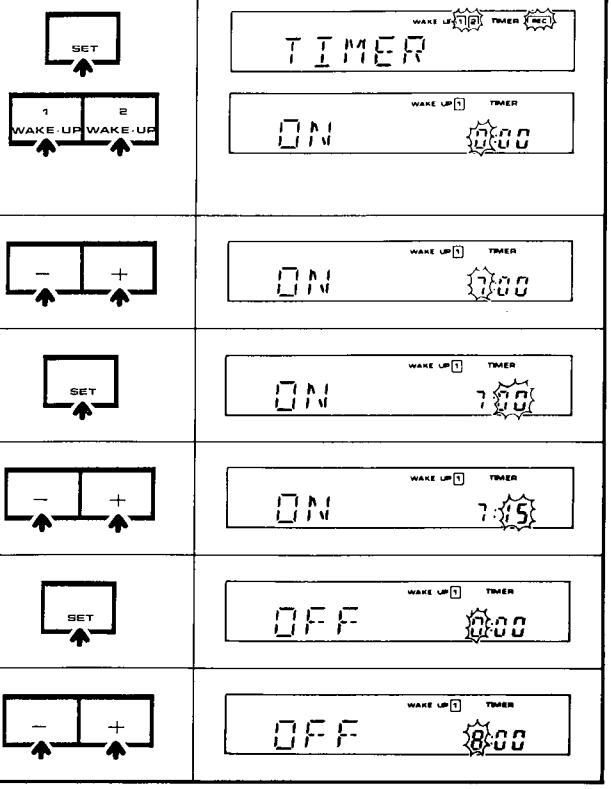

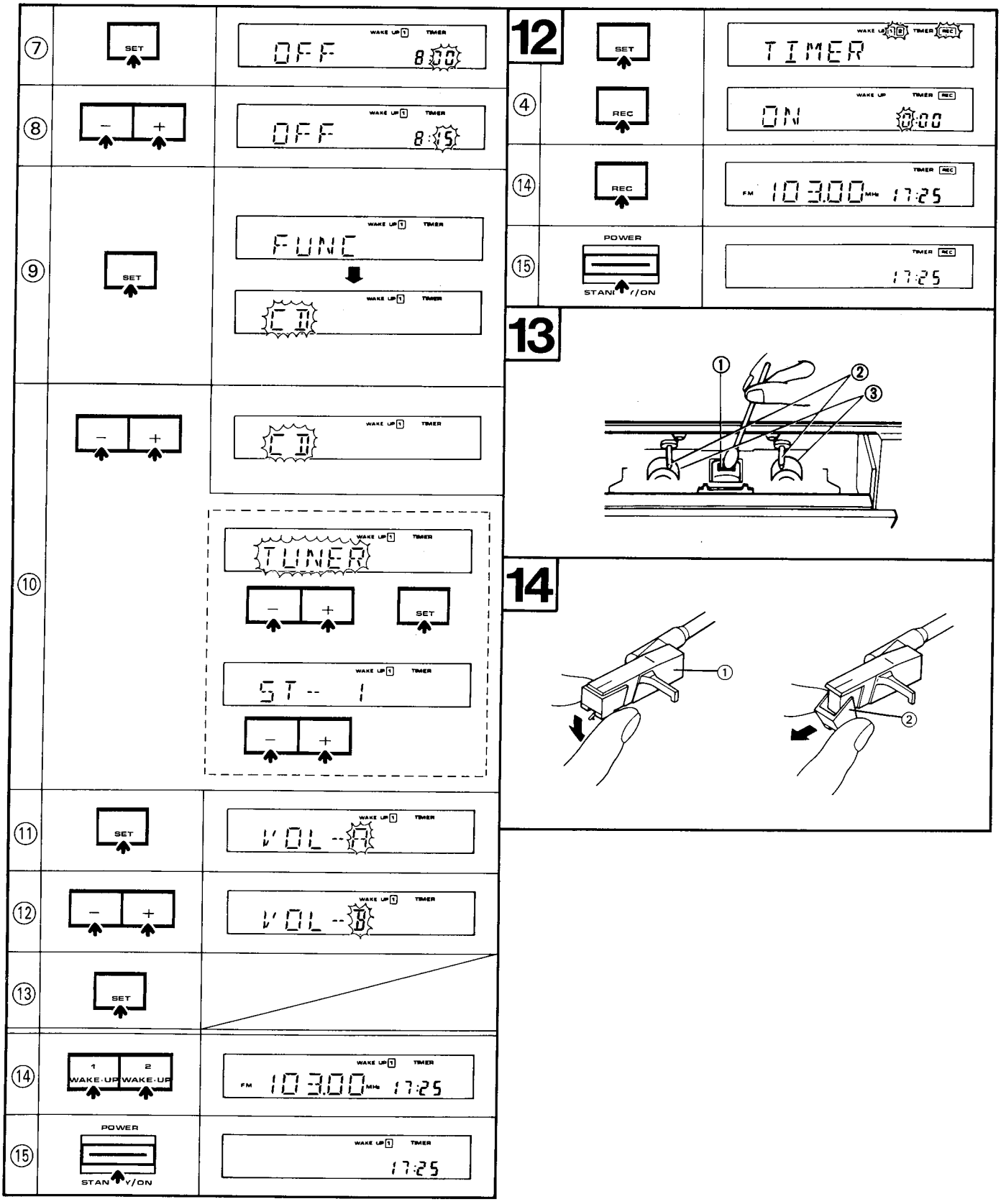
⑦
SET
OFF 8:00
⑧
– +
OFF 8:15
⑨
SET
FUNC
CD
⑩
– +
CD
TUNER
– +
SET
ST-- 1
– +
⑪
SET
VOL--A
⑫
– +
VOL--B
⑬
SET
⑭
1 WAKE·UP
2 WAKE·UP
FM 103.00MHz 17:25
⑮
POWER
STAN V/ON
17:25
12
SET
TIMER
④
REC
ON 0:00
⑭
REC
FM 103.00MHz 17:25
⑮
POWER
STAN V/ON
17:25
13
①
②
③
14
①
②

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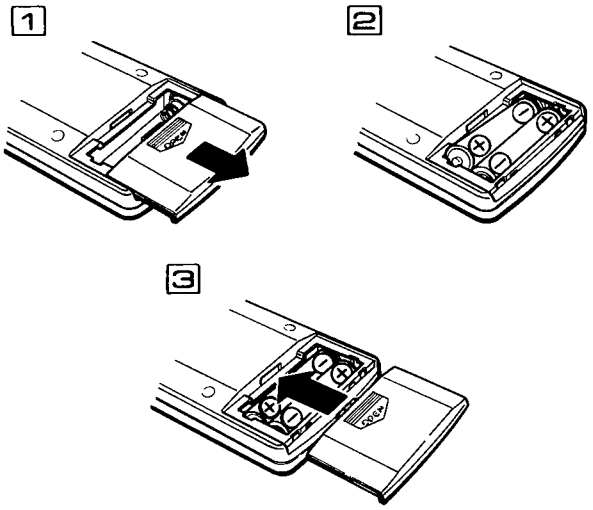
LOADING BATTERIES INTO REMOTE CONTROL UNIT

1. Open the rear cover.
2. Install size "AAA" (IEC R03/UM-4) batteries correctly matching polarity.
3. Close the cover.



Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:

A:
Always insert batteries into the battery compartment correctly matching the positive + and negative − polarities, as indicated inside the compartment.

B:
Never mix new and used batteries.

C:
Batteries of the same size may have different voltages, depending on their type. Do not mix different type of batteries.

PL-Z93 TURNTABLE SET UP

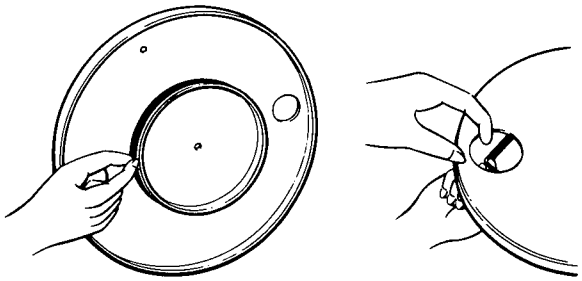
1. Check the parts.

EP adaptor (You will find this taped on the cabinet)

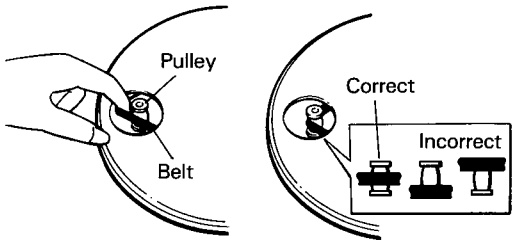
Platter mat

Platter

2. Pinch belt on inner rim between thumb and forefinger.



3. Slip belt over finger and pull out, inserting finger in hole.
4. Insert finger from top of platter and transfer belt to forefinger.
5. Lower platter onto spindle.
6. Release belt onto pulley.



7. Place platter mat on platter (with "PIONEER" side up).
8. Remove the vinyl band holding the tonearm.
9. Remove the tonearm from the arm rest.

10. Remove the stylus cover.

CONNECTIONS

Refer to page 2 for the connections diagram [1]

① Accessory FM antenna
② Accessory AM loop antenna
③ FM/AM tuner (F-Z93 or F-Z93L)
④ Turntable (PL-Z93)
⑤ Tuner input/output cord
⑥ Surround speaker system
⑦ CD player control cord
⑧ Cassette tape deck amplifier
⑨ Turntable output cord
⑩ Speakers cord
⑪ Speaker system
⑫ Power cord
⑬ CD player (Separately sold PD-Z73T or PD-Z83M)
⑭ Digital audio tape deck (DAT) or video cassette recorder (VCR)
⑮ To the AC wall socket

Plug the power cord into the AC wall socket only after all the connections have been completed.

If the FM antenna terminal of the FM/AM tuner is a PAL connector then refer to connection diagram [2].

Proceed as follows with the set up and connections.

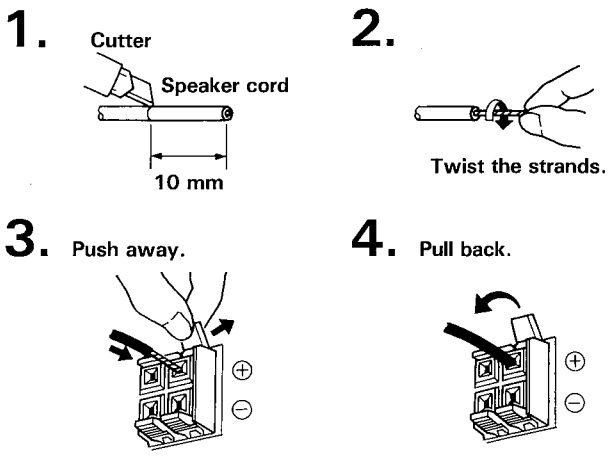
1. **Place the cassette tape deck amplifier on top of the CD player.**
2. **Connect the CD player OUTPUT jacks to the cassette tape deck amplifier CD INPUT jacks with audio cords.**
   If using this unit together with the optional CD player PD-Z73T or PD-Z83M, connect the control cord ⑦.
3. **Place the tuner on top of the cassette tape deck amplifier.**
4. **Connect the tuner input/output cord ⑤ to cassette tape deck amplifier.**
   TUNER CONNECTION (Page 3, diagram [3])
   Insert the connector until it locks, thus ensuring that it is connected. When disconnecting the connector, pull it in the opposite direction while pressing the left and right claws.
5. **Connect the FM antenna ① and the AM loop antenna ② to the tuner's antenna terminals.**
6. **Place the turntable on top of the tuner.**
7. **Connect the turntable's cords ⑨ to the cassette tape deck amplifier's jacks.**
   If using the turntable PL-Z93, connect the turntable's audio cords and power supply cord respectively to the cassette tape deck amplifier's PHONO jacks and DC 12V OUTPUT jack.
   If using a different turntable, connect its audio cord and ground cord.
8. **Use the "DAT/VIDEO" jacks for connection to the audio input/output jacks of a DAT or VCR.**
   If connecting an LD player, connect the LD player's audio output jacks to the "DAT/VIDEO" input jacks.

NOTE:

- *Insert the plugs securely into the jacks. Improper connection can lead to sound distortion or malfunction.*
- *The white plug is for the left channel connection and the red plug for the right channel connection.*

9. **Connect the speaker cords ⑩ to SPEAKERS terminals.**
   Connect the "+" terminals on the cassette tape deck amplifier to the "+" terminals on the speakers, the "−" terminals on the cassette tape deck amplifier to the "−" terminals on the speakers.

Connecting the speaker cords.

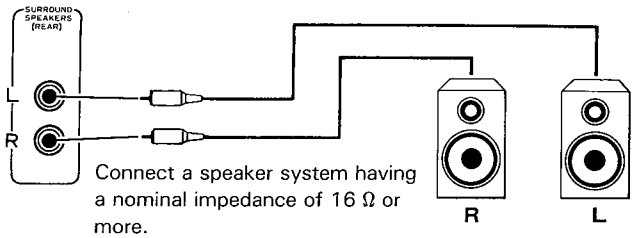


NOTE:
Do not allow the conductors of the cords to project out of the terminals or to come into contact with other conductors. A breakdown or failure may occur when conductors touch.

Speaker impedance
Connect speaker systems with a nominal impedance of ranging from 6 to 16 Ω.

Surround speaker connection

Connect the plugs properly.



10. **Finally, connect the power cord ⑫ to the AC wall socket ⑮.**

CONDENSATION

When the unit is brought into a warm room from previously cold conditions or when the room temperature is suddenly increased, condensation may form inside and the unit may not be able to attain its full performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.

ANTENNA CONNECTIONS

Radio reception is not possible unless the antenna is properly connected.

The strength of broadcast signals varies from one area to another. Signal propagation is especially poor in metropolitan areas, where there are many tall buildings, and in mountainous areas. Proper antenna installation is vital to good reception.

FM ANTENNA

FM Antenna Attachment (Page 3, diagram 4)

Connect the accessory FM antenna to the FM terminals. Stretch the antenna out to its full "T" shape, and affix it to a wall, etc.

External FM antenna installation (Page 3, diagram 5)

Use an external antenna when the signals from the station are weak and cannot be picked up by the accessory FM antenna, or when the sound heard is accompanied by large amounts of noise.
If the FM antenna terminal is a PAL terminal then connect as shown in figure 5-a.
If the FM antenna terminal is not a PAL terminal, then connect as in figure 5-b if using a 75 Ω coaxial cable.

AM ANTENNA

The AM loop antenna supplied with the tuner should be connected to the AM antenna terminals. The antenna should be placed at a distance from the tuner, and should not be allowed to touch metallic objects. Avoid placing it near CD players, personal computers, television sets, and other devices generating radio frequencies.

Setting Up the AM Antenna (Page 3, diagram 6)

- Insert the clip on the bottom of the antenna into the groove on the leg.
- To permanently fix the antenna, screw the leg to a wall or something similar before assembling. (fixing the antenna in the direction that gives the best reception).
- Place the antenna on a level surface and rotate it to locate the orientation that yields the best reception.

① lead wire ② leg

External AM antenna (Page 3, diagram 7)

Indoor AM antenna
Provide a vinyl-coated wire (5 to 6 meters long). Secure one end to the AM terminal and the other end to a wall or other high location.

Outdoor AM antenna
If reception is still poor even when a lead antenna has been stretched out indoors, stretch out a vinyl-coated wire and secure it outdoors.

NOTE:
Do not detach the AM loop antenna when using the external AM antenna.

FM/AM CHANNEL STEP SWITCH

This switch is not provided on models for Europe or U.K.
Adjustment is only necessary when there is a CHANNEL STEP switch at the rear panel.
The CHANNEL STEP switch is located on the rear panel of the digital synthesizer tuner. Before the tuner leaves the factory, this switch is set to the channel step standard of the area where the tuner is sold. Depending on the position of this switch, each time TUNING switch is pressed, the frequency display changes by the following amount:

[100 kHz/10 kHz] position
For areas with channel step of 100 kHz for FM and 10 kHz for AM.

[50 kHz/9 kHz] position
For areas with channel step of 50 kHz for FM and 9 kHz for AM.

NOTE:
- *If the switch is set to the wrong position, correct tuning may not be possible.*

Consult your dealer if you are not sure about the radio channel step standard in your area.

SURROUND SYSTEM

What is surround sound?

With ordinary stereo, sound normally comes only from speakers in front of the listener. In a concert hall or theater though, sound reflected from the walls and ceiling reaches the listener from all directions. This is what accounts for the feeling of ambience or spaciousness of a live performance.
Surround sound works to reproduce these effects to produce fuller, more "live" sound.

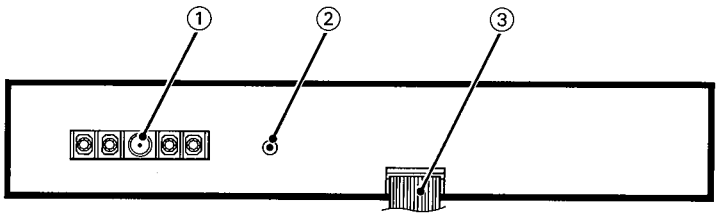
STEREO WIDE
When the surround speakers are not connected, the stereo wide function may be activated. This function enhances the stereo effect. Note that it does not operate in the case of a monaural source, however.

Speaker System Placement Examples (Page 3, diagram 8)

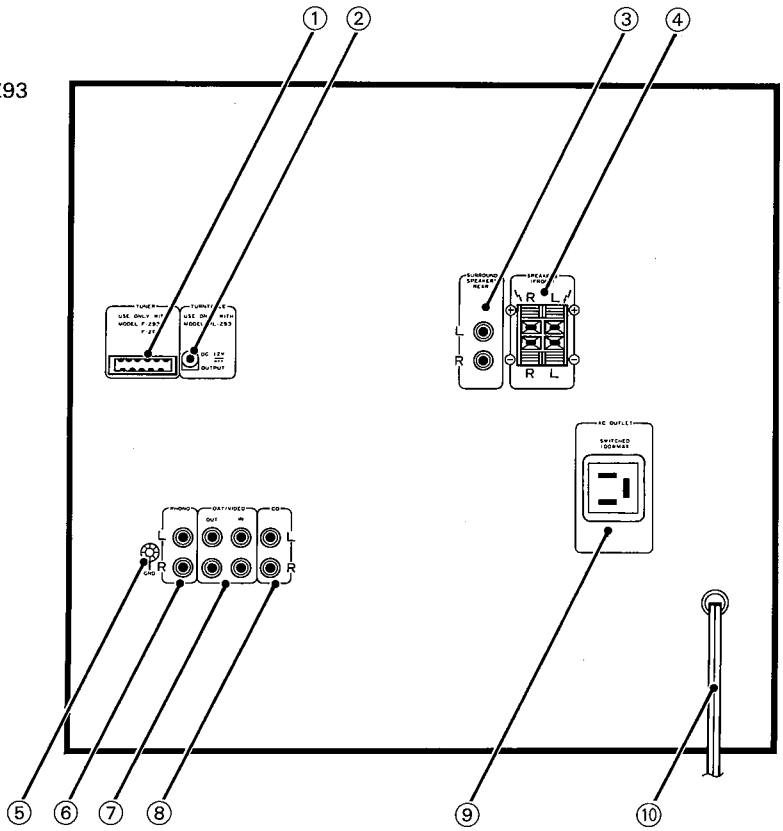
The sound effects obtained in a surround system depend on speaker placement. Experiment with various arrangements to find the one most suited to your tastes.
Placing the speakers slightly higher than ear level contributes to sound quality.
[Case A]
Good sound dispersion; recommended for movies, etc.
[Case B]
Sound appears to come from directly in front of listener. Good for listening to music recordings.
[Case C]
Offers most varied effects; good for watching sports programs or listening to live recordings.

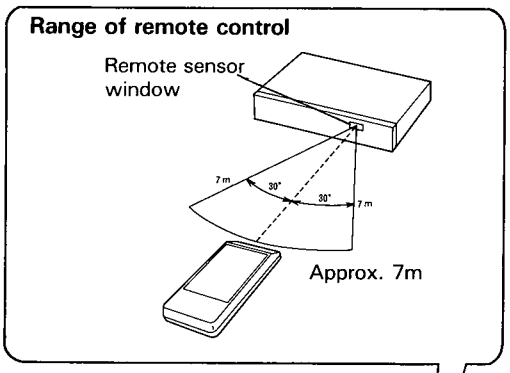
PANEL FACILITIES

F-Z93/F-Z93L

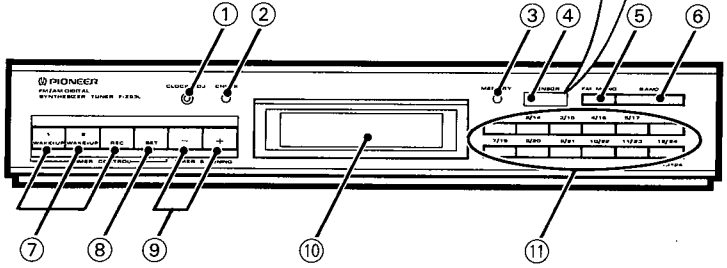


DC-Z93

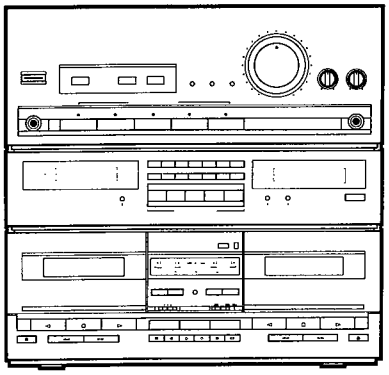


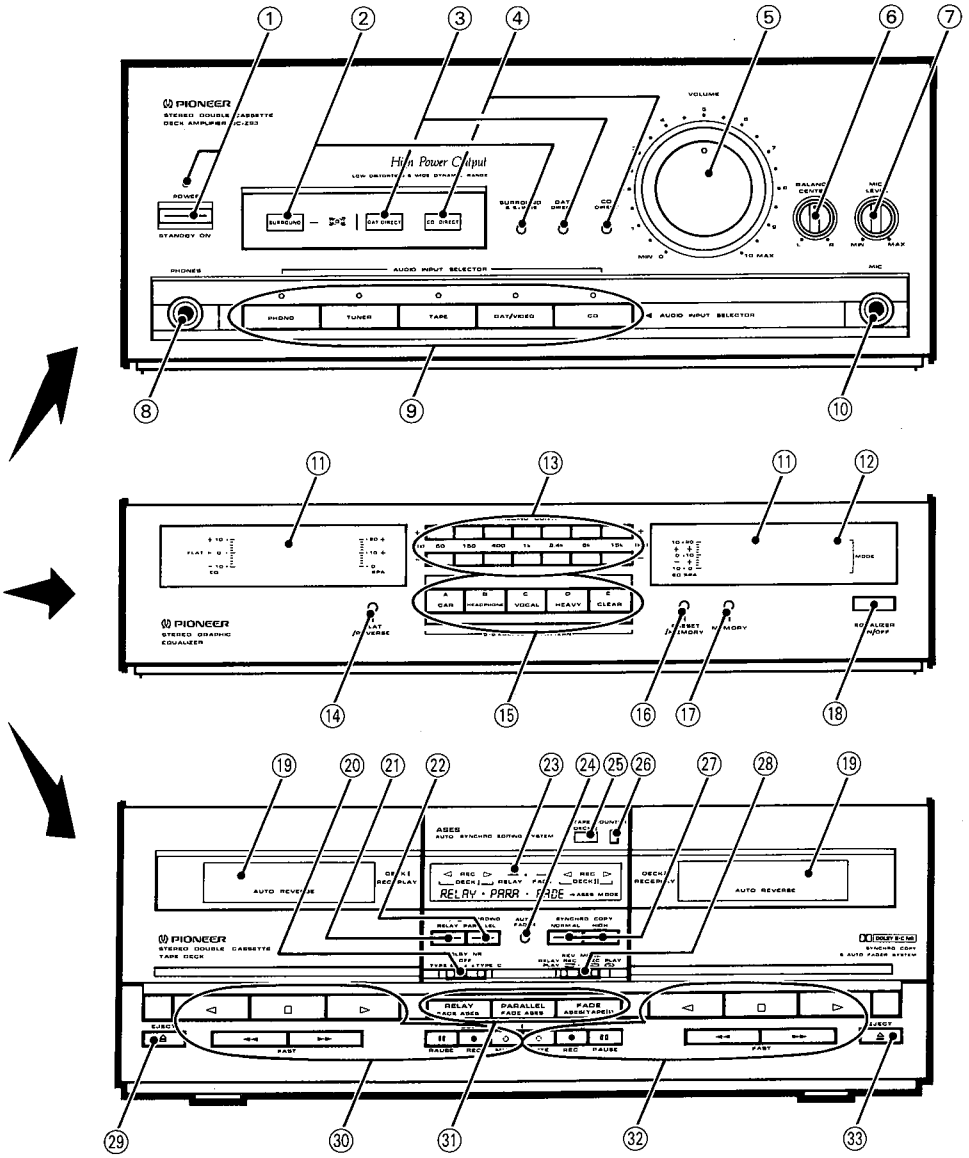


F-Z93/F-Z93L

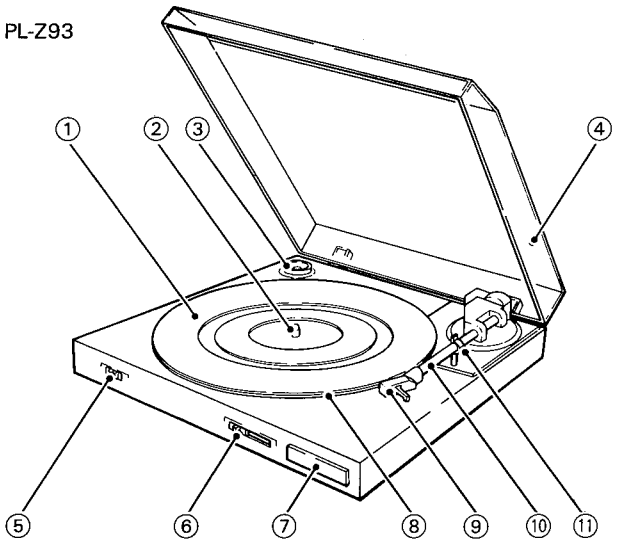


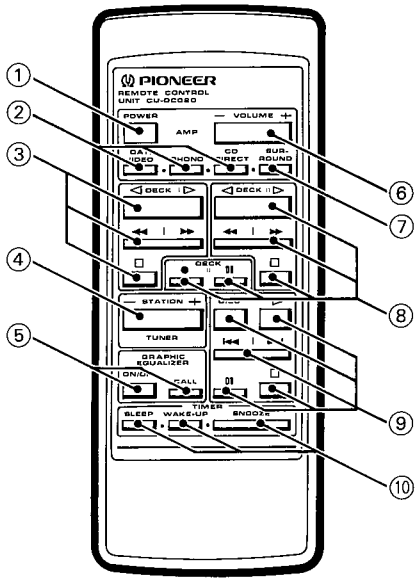
DC-Z93




PIONEER
STEREO DOUBLE CASSETTE DECK AMPLIFIER
High Power Output
VOLUME
POWER
STANDBY ON
SURROUND
DAT DIRECT
CD DIRECT
PHONES
AUDIO INPUT SELECTOR
PHONO
TUNER
TAPE
DAT/VIDEO
CD
MIC
PIONEER
STEREO GRAPHIC EQUALIZER
FLAT
REVERSE
CAR
HEADPHONE
VOCAL
HEAVY
CLEAR
PIONEER
STEREO DOUBLE CASSETTE DECK
ASES
AUTO REVERSE
RELAY · PARA · FADE
RELAY
PARALLEL
FADE
FAST
PAUSE
REC
EJECT

PL-Z93




PIONEER
REMOTE CONTROL UNIT CU-DCO30
POWER
AMP
VOLUME
CD DIRECT
SURROUND
DECK I
DECK II
STATION
TUNER
GRAPHIC EQUALIZER
TIMER
SLEEP
WAKE-UP
SNOOZE

REAR PANEL FACILITIES

Tuner: F-Z93/F-Z93L

① FM/AM ANTENNA terminals

Antennas must be connected to these terminals: otherwise you will not be able to receive stations. See page 7 for details on ANTENNA CONNECTIONS.

② CONTROL OUT jack

Connect this jack to the CONTROL IN jack of CD player (PD-Z73T or PD-Z83M).

- This jack enables the remote control unit provided with the cassette tape deck amplifier to control the CD player.
  Also, by connecting this to the CONTROL IN jack of the optional CD player, it is possible to enjoy synchronized recording of compact discs on the cassette deck (Auto Synchro Editing System: A.S.E.S.).

③ TUNER input/output cord

Connect to the TUNER jack of the cassette tape deck amplifier.

Cassette tape deck amplifier: DC-Z93

① TUNER jacks

Connect the tuner cord here.

② TURNTABLE (DC 12 V OUTPUT) jack

This jack supplies power to the turntable.

③ SURROUND SPEAKERS jacks

Connect the Surround speaker systems.

NOTE:
Connect a speaker system having a nominal impedance of 16 Ω or more.

④ SPEAKERS terminals

L: Connect the left speaker system as seen from the listening position.
R: Connect the right speaker system as seen from the listening position.

NOTE:
Connect a speaker system having a nominal impedance ranging from 6 Ω to 16 Ω.

⑤ Ground terminal (GND)

Connect this to the ground terminal on the turntable (except for PL-Z93).

⑥ PHONO input jacks

Connect the output cord of the turntable to these jacks.

⑦ DAT/VIDEO jacks

IN: Connect to audio output jacks of DAT, LD player or VCR, etc.
OUT: Connect to audio input jacks of DAT or VCR, etc.

⑧ CD input jacks

Connect to output jacks of a CD player.

⑨ AC OUTLET (SWITCHED 100 W MAX)

Power supplied through this outlet is turned on and off by the cassette tape deck amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET in order to avoid overheating or fire risk.
This can cause the cassette tape deck amplifier to malfunction.

⑩ Power cord

Connect this to the AC wall socket.

FRONT PANEL FACILITIES

Tuner: F-Z93/F-Z93L

① CLOCK ADJ switch

Used for starting the clock adjustment.

② CHECK switch

Used for confirming timer settings, after setting for timer playback or timer recording.

③ MEMORY switch

Used for memorizing stations. When the switch is pressed, the frequency display will flash. To memorize the frequency of any station, press a station call switch while the frequency display flashes.

④ REMOTE SENSOR window

⑤ FM MONO switch

Turn on when there is much noise during reception of FM stereo broadcasts. The reproduced sound will become monaural but noise will be reduced.

⑥ BAND selector switch

[For model F-Z93]
Each time this switch is pressed, FM or AM reception is selected alternately.

[For model F-Z93L]
Each time this switch is pressed, FM, MW or LW reception is selected in order.

⑦ Timer selector switches

[WAKE-UP 1,2]
Used for timer playback setting.

[REC]
Used for activating timer recording.

⑧ SET switch

Used for current time, timer playback, and timer recording setting.

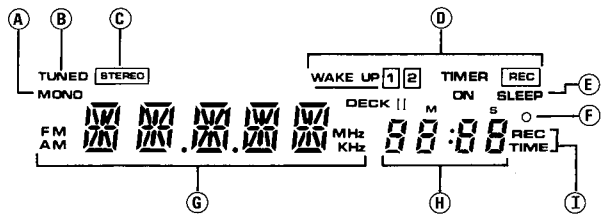
⑨ –, + switches

[During tuning]
Used for locating stations.
Use "–" switch for lower, and "+" switch for higher frequencies.

[During time and timer setting]
Used for adjusting the clock, timer settings and its related adjustments.

⑩ Display section

Shows current time, received frequency, contents of timer settings, etc.



Ⓐ MONO indicator
Lights when the FM MONO switch is set to ON. When this indicator is lit, FM stereo broadcasts are reproduced monaurally.

Ⓑ TUNED indicator
Lights when a broadcast is received and tuned in well.

Ⓒ STEREO indicator
Lights when an FM stereo broadcast is received (FM MONO switch set to OFF).

Ⓓ Timer indicators
These show various timer setting.

Ⓔ SLEEP indicator
Indicates that the sleep timer is activated.

Ⓕ Remote control indicator
Flashes when a command is being received from the remote control unit.

Ⓖ Frequency display
Shows received broadcast frequency. Also gives scrolling display of main function status.
FM and MHz light: FM reception.
AM and kHz light: MW or LW reception (F-Z93L)

Ⓗ Time display
This shows the present time and during recording, it shows the elapsed recording time.

Ⓘ Deck REC TIME indicator
Lights when deck is recording.

⑪ STATION CALL switches

Used for memorizing and recalling memorized stations.

Cassette tape deck amplifier: DC-Z93

- This unit has an automatic tape type selector.
- Recording and playback are possible on both deck I and II.
- Sound can be recorded as adjusted by the graphic equalizer.

Amplifier section

① POWER STANDBY/ON switch

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.
The POWER indicator lights.

STANDBY: When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
When the POWER indicator is off, the unit is in STANDBY.
(The tuner display shows only the time.)

② SURROUND & STEREO WIDE switch/indicator

By turning this switch ON, you can enjoy surround reproduction when rear speakers are used.
By turning this switch ON, you can enjoy STEREO WIDE reproduction with greater left-right spread when rear speakers are not used.
The indicator lights when the switch is on.

NOTE:
- *In the case of monaural source, SURROUND & STEREO WIDE effects cannot be obtained.*
- *SURROUND & STEREO WIDE functions do not operate if CD DIRECT or DAT DIRECT is on.*

③ DAT DIRECT switch/indicator

Press this switch to listen to a DAT without passing the signal through sound quality adjustment circuits.

④ CD DIRECT switch/indicator

Press this switch to listen to a CD without passing the signal through sound quality adjustment circuits.

⑤ VOLUME control

⑥ BALANCE control

Used for changing the balance between left and right channels. Usually set this control to the centre position.

⑦ MIC LEVEL control

Used for adjusting the volume of microphone.

⑧ PHONES (Headphones) jack

For stereo headphones.

NOTE:
There is no output from the speakers when headphones are plugged into PHONES jack.

⑨ Input selector switches/indicators

[PHONO]
Press to play records on a turntable connected to the PHONO jacks.
[TUNER]
Press to listen to radio broadcast.
[TAPE]
Press to listen to cassette tape or VCR etc.
[DAT/VIDEO]
Press to listen to digital audio tape.
[CD]
Press to listen to a CD player connected to the CD jacks.

⑩ MIC (Microphone) jack

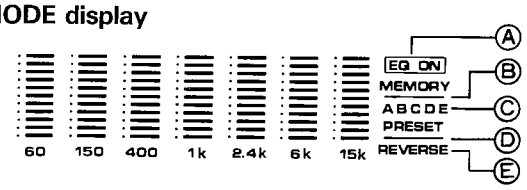
This is a standard jack for connecting a microphone.

Graphic Equalizer section

⑪ Graphic equalizer/Spectrum analyzer display

Usually this is the spectrum analyzer display. And becomes a graphic equalizer display during operation of the EQUALIZING CONTROL switches.

⑫ MODE display



Ⓐ EQ ON indicator
Lights when the EQUALIZER switch is set to ON. When this indicator is lit, the graphic equalizer can be used to adjust sound quality.

Ⓑ MEMORY indicator
When the line under "MEMORY" is lit, it indicates that the equalization curves you input in the memory recall switches can be recalled.

Ⓒ A — E indicators
Indicates which equalization curve is currently recalled.

A: Curve stored in A/CAR. (Preset CAR or Memory A)
B: Curve stored in B/PHONES. (Preset PHONES or Memory B)
C: Curve stored in C/VOCAL. (Preset VOCAL or Memory C)
D: Curve stored in D/HEAVY. (Preset HEAVY or Memory D)
E: Curve stored in E/CLEAR. (Preset CLEAR or Memory E)

Ⓓ PRESET indicator
When the line under "PRESET" is lit, it indicates that the equalization curves factory preset in the memory recall switches can be recalled.

Ⓔ REVERSE indicator
Lights when FLAT/REVERSE switch is used to invert the equalization curve.

⑬ EQUALIZING CONTROL switches

These strengthen or weaken the indicated frequency band. Press the upper switch to emphasize; press the lower switch to attenuate.

⑭ FLAT/REVERSE switch

Press once to reset the equalizer to flat response (no equalization). Press again to reverse a previous curve (boosted frequencies will be attenuated, and vice versa).

⑮ Memory recall switches

Used for recalling equalization curves.

⑯ PRESET/MEMORY switch

Determines whether the equalizer curves recalled by the Memory recall switches are your memorized curves or factory preset curves.

⑰ MEMORY switch

Used for storing equalization curves you input in the memory recall switches.

⑱ EQUALIZER ON/OFF switch

Turns the equalizer on and off. The EQ ON indicator lights when this switch is on.
The equalizer can not be used to adjust the sound when CD DIRECT or DAT DIRECT is on.

Cassette Tape Deck Section

⑲ Cassette door

⑳ DOLBY* NR switch

Set this switch to B or C fore recording with the built-in Dolby NR systems and for playback of tapes which have been recorded using the Dolby NR systems.

- It is recommended that tapes recorded with Dolby NR (Type B or Type C) be so marked on the label. This will help prevent incorrect setting of the noise reduction switch during playback.

*
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

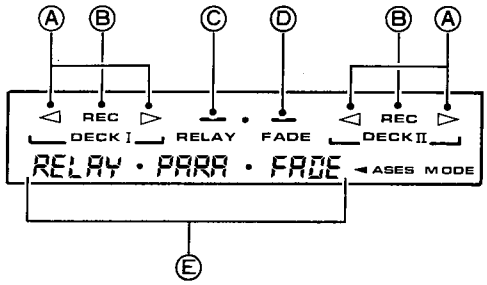
㉑ RELAY RECORDING switch

Use for relay recording from Deck I to Deck II.
Deck II starts recording when Deck I finishes.
To use put both decks in stop mode.

㉒ PARALLEL RECORDING switch

Deck I and Deck II record at the same time.
To use put both decks in stop mode.

㉓ Operation indicators



Ⓐ Direction (◁ , ▷): Indicates direction of tape travel during recording or playback. Flashes slowly in pause mode. Flashes rapidly during Music Search (MS).
Ⓑ REC: Lights when recording.
Ⓒ RELAY: Indicates relay recording in progress using Deck I and Deck II.
Ⓓ FADE: Lights when AUTO FADER switch is on.
Ⓔ ASES MODE
RELAY: relay edit in progress.
PARA: parallel edit in progress.
FADE: fade edit in progress.

㉔ AUTO FADER switch

Used for gradually fading out a recorded tape in Deck II. (The sound will be completely cut off after approximately 10 seconds and the tape will stop.)

㉕ DECK II COUNTER

㉖ Counter reset switch

Press this switch to reset the Deck II tape counter display to 000.

㉗ SYNCHRO COPY switches

Used for tape copying.
NORMAL: Copying from the Deck I tape to the Deck II tape at normal recording/playback speed.
HIGH: Copying at about twice normal tape speed. (Copies can be made in about half the NORMAL time.)

㉘ REV (REVERSE) MODE switch

Switch position	During playback	During recording
RELAY REC PLAY	Plays both tape sides. When one deck finishes playback, the other deck begins playback of both tape sides for 6 times. If there is a tape in only one deck, then that deck continuously plays both sides of the tape for 6 times.	Records on one side.
REC PLAY	Plays both tape sides for 6 times maximum.	Records on both sides.

㉙ Deck I EJECT switch

㉚ Deck I Operation switches

▷ **(PLAY: FWD)** .. For playing back a tape in the forward mode.
◁ **(PLAY: REV)** ... For playing back a tape in the reverse mode.
□ **(STOP)** ..... For stopping the tape.
►► **FAST** ..... Fast forward in forward mode, rewind in reverse mode.
Music search (MS) starts if this is pressed during playback.
◄◄ **FAST** ..... Rewind in forward mode, fast forward in reverse mode.
Music search (MS) starts if this is pressed during playback.
II PAUSE ..... Temporarily stops tape travel. Cancels pause mode when pressed again or press the PLAY switch.
● **REC** ..... To set to recording standby mode. The REC indicator lights and the direction indicators (◁ and ▷) flash. Recording begins when you press the PLAY switch (◁ or ▷).
O MUTE ..... Used for creating a blank space between songs. The unrecorded space is created for as long as this switch is kept depressed.

㉛ A.S.E.S. switches

Used for automatically recording a CD on cassette tape.
RELAY: Recording continues on Deck II after tape ends on Deck I. If using this unit together with the PD-Z73T CD player, Deck II will record disc II after Deck I finishes recording disc I.
PARALLEL: Deck I and Deck II record at the same time.
FADE: The sound fades out at the end of the tape.

㉜ Deck II Operation switches: Same as Deck I operation switches ㉚

㉝ Deck II EJECT switch

Turntable: PL-Z93

① Platter mat

② Platter spindle

③ EP adaptor

Place over the spindle to play 45-rpm singles.

④ Dust cover

⑤ SPEED switch

Set this switch in accordance with the speed of the record.
33: For 33-1/3 rpm records.
45: For 45 rpm records.

⑥ ARM-ELEVATION switch

- To suspend record play temporarily.
- For changing the tracks during actual play.

[UP]: The tonearm rises (the stylus moves away from the record.)
[DOWN]: The tonearm descends (the stylus is lowered onto the record.)

⑦ STOP (□) switch

Press this switch when stopping play.

⑧ Platter

⑨ Cartridge

⑩ Tonearm

⑪ Arm rest

Remote control unit

① POWER key

② Function keys

DAT/VIDEO ..... Sets function to DAT/VIDEO.
PHONO..... Sets function to PHONO.
CD DIRECT ..... Sets function to CD DIRECT.

③ DECK I operation keys: Same as Deck I operation switches ㉚ (Except PAUSE, REC, MUTE).

④ TUNER STATION key

- Before operation, memorize broadcast stations in the STATION CALL switches.

+ ..... Stations change in order in the upward direction
− ..... Stations change in order in the downward direction.

⑤ GRAPHIC EQUALIZER operation keys

ON/OFF: Turns the equalizer on and off.
CALL: Recalls the preset equalization curves (PRESET) and memorized equalization curves (MEMORY) in sequence.

⑥ VOLUME + (UP)/– (DOWN) key

When pressed, VOLUME on the amplifier is actually moved by a motor.

⑦ SURROUND key

Turns SURROUND & STEREO WIDE on and off.

⑧ Deck II operation keys: Same as Deck I operation switches ㉚ (Except MUTE).

⑨ CD operation keys

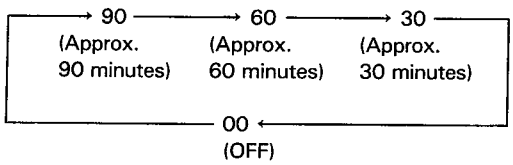
Perform the connections so that the CD player is operated by the remote control unit.

▷ ..... Play
DISC..... DISC selection
□ ..... Stop
▯▯ ..... Pause
⏮, ⏭..... Track search

NOTE:
Note that the DISC selector key on the remote control unit may not operate, depending on the CD player used.

⑩ Timer operation keys

SLEEP: Sets the sleep timer. Each time you press this key, the setting changes as shown here. The current setting is shown on the tuner display.
Power turns off when your set time has elapsed.



If you press the SLEEP key during SLEEP operation, the display will show the time remaining till power turns off.

WAKE-UP: Timer playback setting/cancellation can be performed when the timer playback time has been set. This is shown in the tuner display section.
SNOOZE: Turns off power if pressed after timer playback begins. Timer playback begins again approx. 5 minutes later.

The amplifier input selector automatically switches to the music source being operated when you press the CD playback (▷), cassette tape deck playback (◁, ▷), or tuner station controls.

NOTE:
It is not possible to operate the CD player with the remote control unless the remote control cord is connected (refer to page 2).

Range of remote control (See page 8)

When the remote control unit is pointed at the remote sensor window on the tuner and any of its keys is pressed, the tuner and other components can be operated by remote control.
Distance: Within a range of approx. 7 meters from the remote sensor window on the tuner.
Angle: Within approx. 30 degrees from the center of the remote sensor window on the tuner.
Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote sensor window on the tuner.
Performance of the remote control unit is adversely affected in the presence of strong fluorescent light. Keep such lights away, specially from the sensor window.

HOW TO HANDLE CASSETTE TAPES

Bear in mind the following points before loading cassette tapes.

Is the tape loose, or is some of the tape outside the cassette?
If some of the tape is projecting outside the cassette shell or if it is loose, it may not feed between the capstan and pinch roller. This will prevent the tape from being transported or damage the tape itself. In cases like these, insert a pencil into the reel hole and take up the slack. (Fig. A) Some cassette tapes come with a plastic or thick paper stopper which prevents tape slack. Remove this stopper when loading the tape and replace it after having used the cassette.

What are the accidental erasure prevention tabs for?
A cassette is provided with these tabs so that important recordings will not be erased accidentally. When the tab (Fig. B) on the cassette shell is broken out with the tip of a screwdriver, it will not be possible to activate the recording function even by pressing the recording (REC) switch, so valuable recordings will not be erased in error.
To re-record on a cassette whose tabs have been broken out, simply stick a piece of doubled adhesive tape over the tab areas, as shown in Fig. C.

NOTE:
The accidental erasure prevention tabs are located at the top left on both sides A and B (1 and 2), so that material on each side can be prevented from being erased in error.

Tips on using cassette tapes

- Leader tape (which does not allow sound to be recorded over it) is provided at the beginning of a cassette tape. Start recording after allowing the tape to run for approx. 5 seconds so that the leader tape clears the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case so that dust and dirt do not adhere to the tape after use, and so that the tape is prevented from becoming slack. Choose a location which is not exposed to the effects of magnetism, dust, dirt and oil for storing the tapes.
- Because C-120 tapes are so thin, they easily jam in the pinch roller and capstan, and they are susceptible to other trouble such as irregular winding. Try not to use them with this unit.
  Use tapes of 90 minutes or less.

Fig.A

How to take up tape slack.

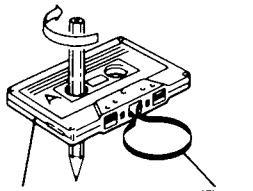


Fig.B

How to prevent already recorded tapes from being erased

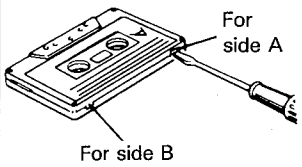


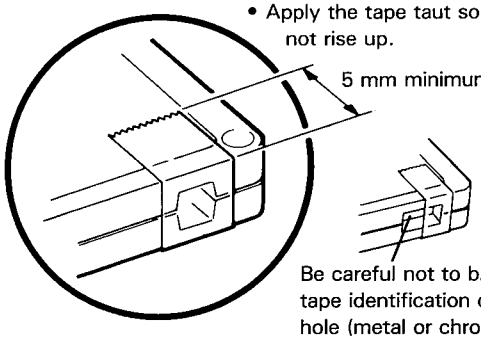
Fig. C

NOTE FOR RE-RECORDING ON A CASSETTE TAPE WHICH HAS A BROKEN TAB

Adhesive tape for re-recording

CORRECT METHOD OF APPLYING TAPE

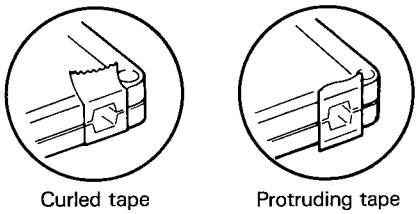
- Apply two layers of cellophane tape.
- Apply the tape taut so that it does not rise up.



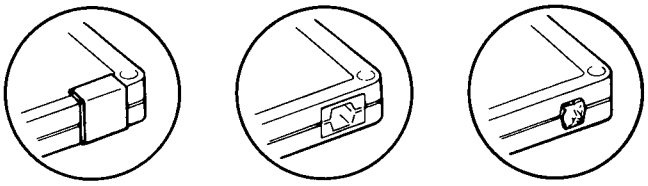
Be careful not to block the tape identification detection hole (metal or chrome tape).

INCORRECT METHOD OF APPLYING TAPE

THIS MAY RESULT IN AN ACCIDENT



Curled tape | Protruding tape



Applying vinyl tape, gum tape, or other tape apart from cellophane tape. | Applying top portion only. | Insertion of an eraser or the like.

After removing the cellophane tape, completely wipe away all traces of paste. Use only alcohol.

BASIC OPERATIONS

Switch numbers used in the following explanation refer to the numbers appearing in the PANEL FACILITIES section on pages 8 and 9.

SETTING THE CLOCK (Tuner operation)

[Example] Setting the time to 17:15.

(See page 3, diagram 9)

1. **Press CLOCK ADJ switch ①.**
2. **Use "–" and "+" switches ⑨ to set the hour.**
3. **Press SET switch ⑧.**
4. **Use "–" and "+" switches ⑨ to set the minute.**
5. **Press SET switch ⑧ when "00" seconds of that minute are reached for precise adjustment.**

- After connecting to an AC outlet, be sure to set the present time. Timer playback and timer recording are not possible unless the time has been set.
- The time indication will appear as " --:--" if the AC power cord is unplugged. Be sure to set the time again after power is resumed.

PREPARATION

Press POWER switch of the cassette tape deck amplifier. Select a input selector switch.

To listen to a CD or DAT without passing through the various frequency-adjusting circuits, press the CD DIRECT switch or the DAT DIRECT switch. The indicator lights.

Auto Function

When DC-Z93, F-Z93 (or F-Z93L) and PD-Z73T (or PD-Z83M) are used together.

This model is equipped with "auto function" operation, so when the switch for playing CD, tape, or tuner is pressed, the amplifier's function switches automatically.
Use the input selector switches for PHONO and DAT/VIDEO source selection since Auto Function is not effective for these.

NOTE:

- *When the CD DIRECT or DAT DIRECT switch is on, you cannot use the graphic equalizer sound quality adjustment, microphone mixing, or SURROUND & STEREO WIDE functions.*
- *Input selectors can not be switched during recording. (Auto function does not operate either.)*

TUNING INTO STATIONS (Tuner operation)

1. **Select the desired broadcasting band using BAND selector switch ⑥.**
2. **Press "+" or "–" TUNING switch ⑨ for higher or lower frequencies.**

[Auto tuning]
Press TUNING "–" or "+" switch until the frequency starts to change, then release it.
The tuner will automatically searches for a broadcasting station, and stop when one is found, and the TUNED indicator lights up. To search for another station, press again.

- To interrupt auto tuning, press TUNING switch again.

NOTE FOR F-Z93L:
Auto tuning is not possible on the LW band.

NOTE:
When auto tuning is in use, reception may not be possible for distant stations or when signals are weak. At these times manual tuning is recommended.

[Manual tuning]
Press TUNING "–" or "+" switch and release quickly.
The tuning frequency will change by one step each time the switch is pressed. Press as many times as necessary to tune in the desired station.
The TUNED indicator lights up when the station is tuned in best.

- If you keep the TUNING switch depressed after the frequency has begun to change, the reception frequency changes continuously, and stops when the switch is released.

3. **Adjust VOLUME control ⑤ on the amplifier and the tone with EQUALIZING CONTROL switches ⑬.**

MEMORIZING STATIONS (Tuner operation)

(Page 3, diagram 10)

Presetting

Up to 24 FM/AM stations can be memorized at random. Press a STATION CALL switch once for Mode 1 (1 — 12) and twice for Mode 2 (13 — 24).

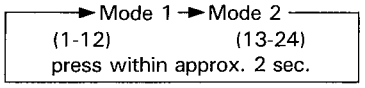
1. **Tune in desired station.**
   (If the station is FM, then the current FM MONO ON/OFF switch ⑤ setting is included in the memory.)
2. **Press MEMORY switch ③.**
   - The display will flash (approx. 5 seconds).
3. **Press STATION CALL switch ⑪.**
   - While the display is flashing, press a STATION CALL switch in which you wish to memorize the station.

When memorizing a station in Mode 1 (e.g. memorizing a station to No. 9):
By pressing the STATION CALL 9/21 switch once, the station will be preset to Mode 1.

When memorizing a station in Mode 2 (e.g. memorizing a station to No. 21):
Mode 2 stations are memorized by pressing the STATION CALL 9/21 switch twice within approx. 2 seconds.

NOTE:

- *Pressing the STATION CALL switch within approx. 2 seconds switches alternately between Mode 1 and Mode 2.*



- *After you press the STATION CALL switch, the display will flash for approx. 2 seconds, then the station will be memorized. If you press another switch while the display is flashing, the station will not be memorized.*

RECEPTION USING PRESET TUNING

(Tuner operation)

Press STATION CALL switch ⑪ into which the desired station is memorized.

- Press once for Mode 1 stations, twice for Mode 2.

NOTE:

The contents of the STATION CALL switches will be preserved for several days, even if the cassette tape deck amplifier's power cord is unplugged. If a memorized station has been erased, memorize it again.

Last station memory

The last received AM and FM stations remain stored despite input selector and/or POWER switching. To recall, use BAND selector switches.

TAPE PLAY (Cassette tape deck operation)

Tapes may be played back in deck I or deck II but not in both decks at the same time.

1. **Press EJECT switch, and load a recorded tape.**
2. **Set the DOLBY NR switch ⑳ to the same position used for recording.**
3. **Select REV MODE switch ㉘.**
4. **Press PLAY switch (▷ or ◁).**
   Press PLAY switch of the loaded deck.
5. **Adjust VOLUME control ⑤ on the amplifier and the tone with EQUALIZING CONTROL switches ⑬.**
6. **To stop playback, press STOP switch (□).**

Auto Stop Mechanism

The mechanism stops automatically when the end of tape is reached.

NOTE:

When the PLAY switch of one deck is pressed while the other deck is in playback mode, the former stops and the latter starts playback.

MUSIC SEARCH

You can perform music search during playback by carrying out the following:

1. **To listen to the following program, press FAST switch of the same direction as playback.**
2. **To listen to the current program again, press FAST switch of the opposite direction to playback.**

   During music search the indicator for tape travel direction flashes. When doing music search, do not operate the other deck. Doing so may affect blank interval detection function. When the unrecorded portion between the two programs is located playback resumes.

NOTE:

Performing music search on the following types of tape may not be possible. This is not a unit malfunction, however.

- *A tape whose unrecorded portions between tracks are less than 4 seconds long.*
- *A tape with high noise level between tracks.*
- *A tape with low level or silent passages of several seconds in the same tracks, such as classical music.*
- *A tape, such as a conversation tape where sound is intermittent.*

RECORDING ONTO A CASSETTE TAPE

(Cassette tape deck operation)

You can record on Deck I and/or Deck II. (See page 20 for details on relay recording from Deck I to Deck II. And parallel recording on Deck I and Deck II.) If you turn on the graphic equalizer then you can record the equalized sound. Here we will explain how to record on Deck II. Use the same procedure to record on Deck I.

1. **Press EJECT switch, and load the tape for recording into deck II.**
   - Check to see that the accidental erasure prevention tabs are not broken off.
   - Make sure that there is no tape slack.
2. **Set DOLBY NR switch ⑳ to the desired position.**
   - A tape which has been recorded using the DOLBY NR system must be played back with the same system.
3. **Select REV MODE switch ㉘.**
4. **Use the input selector switch ⑨ on the amplifier to select and play the recording source.**

Program source	Selected indicator	Operation
Record	PHONO	Operate the turntable
Radio broadcast	TUNER	Tune into a broadcast
Tape	TAPE	Play a tape in deck I
Equipment which is connected to DAT/VIDEO jacks	DAT/VIDEO	Operate the equipment connected to DAT/VIDEO jacks
Compact disc	CD	Play a compact disc

5. **Adjust EQUALIZING CONTROL switches ⑬ to change the sound quality for recording.**
6. **Press REC switch (●) ㉜.**
   - The REC indicator lights.
   - The direction indicator flashes.
7. **Press the appropriate PLAY switch (▷ or ◁) ㉜.**
8. **To stop recording, press STOP switch (□) ㉜.**

Auto reverse function

This unit uses rotary type recording and playback heads, and the same heads are used in both forward and reverse directions. Tape-end detection is employed to activated auto reverse operation which takes approx. 2 seconds after the tape is taken up.

NOTE:

A leader tape having a length equivalent to approx. 5 seconds is attached to an ordinary cassette tape. This means that for two-way travel of the leader tape there will be a break of approx. 12 seconds in the sound. Be very careful of this, particularly when making a two-way recording.

Pausing and restarting recording

1. **Press PAUSE (II) switch ㉜.**
   - Recording will be suspended.
2. **To restart recording again, press PAUSE (II) or PLAY switch ㉜.**

Recording muting

When recording, this can be used to create a blank no-signal area between songs. This blank area is needed for the music search function.

Keep MUTE (**O**) switch ㉜ depressed during recording for the length of the blank space that you wish to create. Release to resume normal recording.

NOTE:

- *Music search operation requires unrecorded blank (mute) space of at least approx. four seconds between songs.*
- *MUTE switch does not operate in tape copy mode.*
- *If you press MUTE switch while recording is taking place, a non-recorded portion will be created. Be careful, therefore, not to depress the switch other when necessary.*

Questions (Q) and answers (A) on recording

Q: How is the recording level adjusted?

A: This unit has a built-in automatic level control which dispenses with the need to adjust the recording level.

Q: What is the difference between the operation of playing a tape in one deck and recording the output onto a tape in another deck (tape dubbing), and tape copying?

A: "Tape dubbing" means playing back a tape in deck I while adding "mic mixing" or graphic equalizer processing for recording on deck II.
"Tape copying" means using the SYNCHRO COPY switch (NORMAL or HIGH) to make a duplicate tape in deck II of the tape in deck I.

	Tape that was put in DECK I (playback)	DOLBY NR switch	Resulting newly recorded tape
Tape dubbing	Tape recorded with DOLBY NR (type B or C)	ON (appropriate position)	Tape recorded without DOLBY NR
	Tape recorded without DOLBY NR	OFF	Tape recorded without DOLBY NR
Tape copy	Tape recorded with DOLBY NR (type B or C)	ON (appropriate position)	Tape recorded with DOLBY NR
	Tape recorded without DOLBY NR	OFF	Tape recorded without DOLBY NR

DOLBY NR SYSTEMS

The Dolby NR Systems is designed to reduce high-frequency noise (tape hiss) during playback. The level of low-volume, high-frequency sounds is increased during recording, and decreased by the same amount during playback to restore the original level. In this process the original high-frequency noise (most easily perceived by the human ear) is attenuated notably.
Dolby B-type NR reduces high-frequency tape noise, widening the dynamic range. C-type is even more powerful, applying the noise reduction effect to a wider spectrum of frequencies from the middle range.
For playback always use the same Dolby NR setting that was used for recording.

NOTE:

Avoid playing back tapes recorded using the Dolby NR Systems with DOLBY NR OFF, or tapes recorded without Dolby NR Systems with DOLBY NR ON (B-type or C-type), since this does not allow faithful reproduction of the original sound.

RECORD PLAY (Turntable PL-Z93)

1. **Set input selector switch ⑨ on the amplifier to PHONO.**
2. **Place record on the platter mat.**
3. **Remove the stylus cover and release the tonearm from the arm rest.**
4. **Set SPEED switch ⑤.**
5. **Set ARM-ELEVATION switch ⑥ to UP position.**
6. **Move the tonearm by hand to the desired position over the record.**
7. **Set ARM-ELEVATION switch ⑥ to DOWN position.**
   - The tonearm descends onto the record and playback starts.
8. **Adjust the volume with VOLUME control ⑤ on the amplifier and the tone with EQUALIZING CONTROL switches ⑬.**
9. **To stop the player while a record is being played, press STOP switch ⑦.**

PLAYING THE COMPONENTS CONNECTED TO THE CD OR DAT/VIDEO JACKS

1. **Set input selector switch ⑨ on the amplifier according to the program source to be played.**
   When used in combination with Pioneer PD-Z73T or PD-Z83M CD player, the input selector automatically switches to CD when CD playback starts.
2. **Play the component to be used.**

GRAPHIC EQUALIZER CONTROLS

1. **Turn on EQUALIZER ON/OFF switch ⑱.**
   - Press so that MODE display [EQ ON] indicator lights.
2. **Use EQUALIZING CONTROL switches ⑬ to adjust sound.**
   - Left and right channels are adjusted simultaneously.

How to recall a factory preset equalization curve.

This unit has five factory presets.

CAR: a curve for recordings to be listened in a car.
PHONES: a curve for recordings to be listened with headphones.
VOCAL: a curve for listening to vocals including operas and musicals.
HEAVY: for rock and other popular music; emphasizes bass and treble.
CLEAR: for electronic music, fusion, and other genres where you want a clear sound with strong midrange and treble characteristics.

1. **Turn on EQUALIZER ON/OFF switch ⑱.**
2. **Use PRESET/MEMORY switch ⑯ to select PRESET.**
   - Press so that the line under "PRESET" lights in MODE display.
3. **Press a memory recall switch ⑮ for the preset curve you wish to recall.**

How to store an equalization curve.

After creating your own equalization curve, you can store it in one of the memory recall switches.

1. **Turn on EQUALIZER ON/OFF switch ⑱.**
2. **Use EQUALIZING CONTROL switches ⑬ to adjust sound.**
3. **Press MEMORY switch ⑰.**
   - The display will flash (approx. 5 seconds).
4. **Press the memory recall switch (A – E) ⑮ in which you wish to store the curve.**
   - While the display is flashing, press a memory recall switch you wish to memorize the equalization curve.

How to recall your memorized equalization curve.

1. **Turn on EQUALIZER ON/OFF switch ⑱.**
2. **Use PRESET/MEMORY switch ⑯ to select MEMORY.**
   - Press so that the line under "MEMORY" lights in MODE display.
3. **Press a memory recall switch ⑮ for the memory curve you wish to recall.**

FLAT/REVERSE switch operation

Press once to obtain flat response (all equalizer indications at zero); press again to reverse the curve (boosted frequencies are reduced and vice versa).
During playback of a tape recorded with equalization, if you reverse the curve used for recording, you will a tonal balance hear close to the original.

MICROPHONE MIXING

MIXING KNOW-HOW

Mixing involves combining the signals from two input sources (a microphone and a tape, for example).

MIXING PROCEDURE

1. **Plug a microphone into MIC jack ⑩.**
2. **Adjust VOLUME ⑤ to a suitable level.**
3. **Set MIC LEVEL control ⑦ to the center position between MIN and MAX.**
   - If howling occurs (a high-pitched sound from the speakers), take the following steps.
     1. Move the microphone away from the speakers.
     2. Lower the volume.
4. **Select the desired program source using input selector switches ⑨.**
5. **Start playback of the program source.**
6. **Adjust VOLUME control ⑤.**
7. **Use MIC LEVEL control ⑦ to adjust the microphone level in relation to the music source.**
8. **Talk or sing into the microphone.**

NOTE:
Mic mixing is not possible when using the CD DIRECT and DAT DIRECT functions.

MIXING RECORDING

You can record on Deck I or Deck II. Or you can record on both at the same time.
- To record on both Deck I and II at the same time, see page 20.

1. **Perform steps 1 to 7 in the section "MIXING PROCEDURE."**
2. **Load a tape for recording into deck I (or II).**
3. **Press REC (●) switch on deck I (or II).**
4. **Press PLAY (▷ or ◁) switch on deck I (or II).**
5. **Sing along with the program source.**

NOTE:
Mixed sound does not appear at the DAT/VIDEO OUT jacks.

CASSETTE TAPE RELAY PLAYBACK

- Relay playback is repeated as follows:

Deck I forward play (▷) → Deck I reverse play (◁)
Deck II reverse play (◁) ← Deck II forward play (▷)

- Relay playback is possible for a maximum of 6 times.
- If there is a tape in only one of the decks, then it will be played continuously on both sides.

1. **Load the playback tapes into deck I and deck II.**
2. **Set REV MODE switch ㉘ to RELAY PLAY.**
3. **Set DOLBY NR switch ⑳ to the same position used for recording.**
4. **Press the appropriate PLAY switch (▷ or ◁) on deck I or deck II.**
5. **To stop relay playback, press STOP switch (□) of the operating deck.**

RELAY RECORDING

With this function, deck II starts recording when deck I finishes recording. Both decks must be in stop mode.

NOTE:
If the accidental erasure prevention tabs of the side A on either tape cassette are broken off, recording will not begin when the RELAY RECORDING switch is pressed.

1. **Press EJECT switch for deck I ㉙ and deck II ㉝, and load tapes for recording.**
   Make sure there is no tape slack.
2. **Set DOLBY NR switch ⑳ to the desired position.**
3. **Set REV MODE switch ㉘ to the desired position.**
4. **Press a input selector switch ⑨ to select and then play the recording source.**
   • Choose a source other than TAPE.
5. **To record the sound passed through the equalizer, turn on EQUALIZER ON/OFF switch ⑱ and use EQUALIZING CONTROL switches ⑬ to adjust the sound quality.**
6. **Press RELAY RECORDING switch ㉑.**
   • RELAY indicator lights.
   • Deck I begins recording in the forward direction (▷). When deck I finishes recording, deck II will begin recording in the forward direction (▷).
7. **To stop relay recording, press STOP switch (□) of the deck currently recording.**

PARALLEL RECORDING

With this function, both decks start recording the same source at the same time. Both decks must be in stop mode. After recording begins, you have independent control over pause and stop operations of the two decks.

NOTE:
If the accidental erasure prevention tabs of the side A on either tape cassette are broken off, recording will not begin when the PARALLEL RECORDING switch is pressed.

1. **Press EJECT switch for deck I ㉙ and deck II ㉝, and load tapes for recording.**
   • Make sure there is no tape slack.
2. **Set DOLBY NR switch ⑳ to the desired position.**
3. **Set REV MODE switch ㉘ to the desired position.**
4. **Press a input selector switch ⑨ to select and then play the recording source.**
   • Choose a source other than TAPE.
5. **To record the sound passed through the equalizer, turn on EQUALIZER ON/OFF switch ⑱ and use EQUALIZING CONTROL switches ⑬ to adjust the sound quality.**
6. **Press PARALLEL RECORDING switch ㉒.**
   • The REC indicators lights on both decks and recording begins in the forward direction (▷).
7. **To stop recording, press STOP switch (□) on the deck you wish to stop.**

COPYING TAPES

Duplicating the recorded contents of one tape onto another tape is known as tape copying. The contents of the tape in deck I can be copied onto the tape in deck II (but not vice versa.) Copying is not possible while either deck is operating. You cannot record a source using the graphic equalizer.

If a tape recorded with the DOLBY NR system is copied, the copied tape will also be recorded automatically with DOLBY NR system. If a tape recorded without the DOLBY NR system is copied, the copied tape will also be recorded automatically without the DOLBY NR system.

1. **Load the recorded tape into deck I and the tape for recording into deck II.**
   • Wind the tape forward past the leader to the start of the magnetic coating portion.
   • Tape copying begins from the forward direction (▷).
   • Make sure there is no tape slack.
2. **Select REV MODE switch ㉘.**

REVERSE MODE switch	Operation
RELAY REC PLAY	One side is copied from deck I to deck II.
REC PLAY	Both sides are copied from deck I to deck II.

3. **To perform a normal copy while listening to playback, set input selector switch ⑨ on the amplifier to TAPE and select the DOLBY NR switch ⑳ position.**

Even if input selector switch is set to another position, tape copying will still proceed. The sound of the program source selected by input selector switch will be heard through the speakers.

4. **Press one of SYNCHRO COPY switches ㉗.**
   NORMAL: for tape copying at normal speed while listening to it.
   HIGH: for tape copying at about twice normal speed.
5. **Press STOP switch (□) on either deck to stop the copying at any time.**

NOTE:
- *If you are using a TV in the vicinity of the unit, noise will be recorded. Either switch off the TV or move it away from the unit.*
- *There is variation in actual tape length even among cassettes of the same length label (C-60, C-90, etc.). Therefore, even if the recording tape is labeled as the same length as the playback tape, it is possible for the recording tape to end first without recording all of the contents of the playback tape.*

TAPE FADER
(function for fading out recordings tapes)

With this function, it is possible to change any portion of a recorded tape into a fade-out. Sound fades to no signal after approx. two to three seconds and the tape stops after approx. 10 seconds.
When the tape is played back, the sound will gradually start decreasing from the beginning of the faded portion, and be cut off completely in approximately 10 seconds.

1. **Load the recorded tape into deck II.**
   Tape fader can not be used on deck I.
2. **Operate deck II to position the tape at the beginning of the portion to be faded out.**
3. **Press AUTO FADER switch ㉔.**
   - The FADE indicator lights. The direction indicators (▷ and ◁) flash.
4. **Press the appropriate PLAY switch (▷ or ◁) ㉜.**
   - The fade-out operation will start, then stop after approximately 10 seconds.

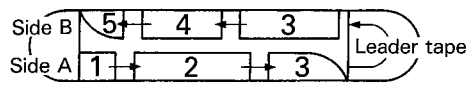
NOTE:
- *If unwanted sound remains after the fade-out, use the MUTE switch (○) to erase it.*
- *Make sure that the cassette's accidental erasure prevention tab (for the side in use) is not broken off.*

A.S.E.S. (Auto Synchro Editing System)

(This function can be used with the Pioneer CD player PD-Z73T or PD-Z83M when the CONTROL terminal of the CD player is connected to that of the tuner.)

For automatic recording of a CD to a cassette tape. This unit offers three kinds of A.S.E.S. operation.

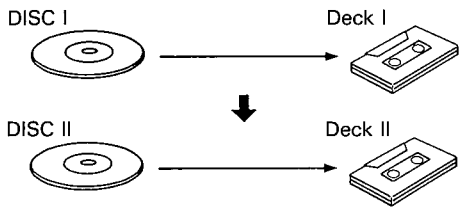
FADE: The sound fades out automatically at the end of the tape.



- The numbers are the CD track numbers.

PARALLEL: Deck I and Deck II record at the same time.
The sound fades out automatically at the end of the tape.
If one of the decks stops at the end of the tape, or if a STOP switch is pressed to stop one of the decks, then the other deck switches into the FADE mode, the PARA indicator goes out, and the FADE indicator lights.

RELAY:
- When used together with the PD-Z73T, Deck II will record disc II after Deck I finishes recording disc I.



- When used together with the PD-Z83M, recording continues on Deck II after recording finishes on the tape in Deck I.

In either case, the sound fades out automatically at the end of the tape.
If STOP switch is pressed on Deck I while Deck I is recording, then Deck II shifts to the FADE mode and begins A.S.E.S. The RELAY indicator goes out and the FADE indicator lights.

- Recording starts from the forward (▷) direction.
- When recording on both sides, and the tape ends in the middle of a track in the forward (▷) direction, recording starts from the beginning of the track when it continues in the reverse (◁) direction.

1. **Put disc in the CD player.**
2. **Put a tape to be recorded in Deck II.**
   Put tapes to be recorded in both Deck I and Deck II if you are going to perform PARALLEL or RELAY recording.
3. **Set DOLBY NR switch ⑳ to the desired position.**
4. **Set REV MODE switch ㉘ to the desired position.**
5. **To record the sound passed through the equalizer, turn on EQUALIZER ON/OFF switch ⑱ and use EQUALIZING CONTROL switches ⑬ to adjust the sound quality.**
6. **Press one of A.S.E.S. switches (FADE, PARALLEL, RELAY) ㉛.**

• When REV MODE Switch is at " RELAY PLAY / REC ⇄ "

1. The cassette tape for recording is rewound to the beginning.
2. Recording on the cassette tape begins in the forward direction.
3. Playback begins on the CD player.
4. When one side is recorded, the CD player is set to the stop mode, the cassette tape is rewound for approximately 3 seconds, and a fade out is recorded.

• When REV MODE Switch is at " REC ⊃ / PLAY ↻ "

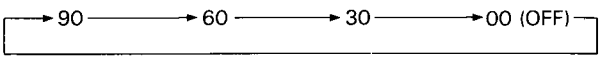
The following operations are performed after steps 1 through 3 above:

4. When one side is recorded, the CD player is set to the pause mode, the cassette tape is rewound for approximately 3 seconds, and a fade-out is recorded.
5. Recording on the cassette tape begins in the reverse direction.
6. Playback of the CD resumes from the beginning of the track where it was paused.
   If the CD is longer than the tape, the tape will be rewound for approximately 3 seconds and the fade-out operation will start, in the same way as for side A.
7. **To stop A.S.E.S. operation, press STOP switch (□) of the deck currently recording.**

NOTE:
- *Fade-out recording may not occur with some tape types under some conditions.*
- *A.S.E.S performs automatic recording from CD to tape and performs automatic fade-out at the tape end, so do not attempt to perform manual operations during A.S.E.S. operation.*
- *A.S.E.S. may stop or operate incorrectly when there is a song change near the end of the tape. In such cases use manual operation to record the remaining songs.*

SLEEP TIMER — Automatically turns off power.

Sleep timer can be activated by remote control unit only. Power is turned off automatically after your set time has elapsed.
Each time you press the SLEEP key, the setting changes in the sequence shown here.



If the WAKE-UP timer is on, the sound fades out when the SLEEP TIMER cuts the power. However, when the WAKE-UP timer is off, or when WAKE-UP 1 or WAKE-UP 2 are on and the wake up volume setting is ✻, then there is no fade-out.

TIMER PLAYBACK

(Use tuner for timer setting.)

A compact disc, cassette, or a radio broadcast can be used instead of an alarm clock.
At the preset time, volume rises gradually as playback begins. (The volume knob does not move if you select ✲). Timer playback begins every day at the same time as long as the timer playback mode is not turned off.

Tape playback:

Timer playback is possible with a cassette tape loaded in deck I.

Compact disc playback (If PD-Z73T or PD-Z83M is used together with this system)

The disc is played from the beginning when the timer turns the power on.

[Timer setting example] (See page 3, diagram 11)

Using WAKE-UP 1 to play a CD from 7:15 to 8:15.
(Use the same procedure when using WAKE-UP 2)

1. **Press SET switch ⑧ and then (within 5 seconds) press WAKE-UP 1 switch ⑦.**
2. **Use "–" (DOWN) and "+" (UP) switches ⑨ to set the wake up hour.**
3. **Press SET switch.**
4. **Use "–" (DOWN) and "+" (UP) switches to set the wake up minute.**
5. **Press SET switch.**
6. **Use "–" (DOWN) and "+" (UP) switches to set the turn off hour.**
7. **Press SET switch.**
8. **Use "–" (DOWN) and "+" (UP) switches to set the turn off minute.**
9. **Press SET switch.**
10. **Use "–" (DOWN) and "+" (UP) switches to select input selector (listening source).**
    The listening source changes each time "–" and "+" switches are pressed. The listening source changes in the following order when "+" switch is pressed:

    CD → PHONO → TUNER → TAPE → DAT/V

    Select CD, TAPE, or TUNER.

    - **If you select CD:**
      Put disc in the CD player.
    - **If you select TAPE:**
      Put a recorded tape in Deck I and wind the tape to the point where you wish playback to begin. Set DOLBY NR switch to same position as was used when the tape was recorded. Set the REV MODE switch to the desired position.

NOTE:
Timer playback is not possible with the tape in Deck II.

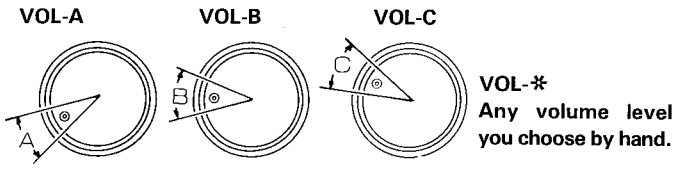
- **If you select TUNER:**

Select the station call number. Station call is not possible for stations not memorized in STATION CALL switches.
① Press SET switch.
② Use "–" (DOWN) and "+" (UP) switches to select the desired station call number.

11. **Press SET switch.**
12. **Use "–" (DOWN) and "+" (UP) switches to set the desired wake up volume level.**
    You can select from four volume level settings. Each time you press "+" switch, the volume level setting changes in the sequence shown here.

    A → B → C → ✲

Amount of volume for each setting:



If you select ✲, now adjust VOLUME to your desired level.

13. **Press SET switch.**
    After showing the following sequence of information, the display returns to normal: ON time, OFF time, listening source (and station call number in case of tuner), volume.

[To activate the timer]

14. **Press WAKE-UP 1 switch (same switch as in step 1).**
    WAKE-UP timer indication should light.
15. **If power is on, turn it off.**
    Play will begin automatically at the selected time even if you do not turn off the power.
    However, the volume setting will not change.

To check timer settings

Press CHECK switch ② and then (within 5 seconds) press the timer switch that you wish to check.

[Example]
To check WAKE-UP 1, press CHECK then WAKE-UP 1.
- The display will sequentially show WAKE-UP 1 settings.

To change timer settings

- To change all of the timer settings, start over again, inputting the settings that you want.
- To change only one of the timer settings (after pressing SET and WAKE-UP (1 or 2) switches), press SET switch repeatedly until the display shows the item that you wish to change. Then use "–" and "+" switches to adjust the setting. Finally, repeatedly press SET switch to advance to the end of the procedure.

If you make a mistake while setting the timer

Go ahead to the next item and continue setting the various items until you finish. Then use the "To change timer settings" procedure to change the value of the item that was incorrect.

Turning timer on and off

After inputting the timer settings, check the tuner display to confirm which timer is on. The one that is lit (WAKE-UP 1 or 2) is the one that will be executed.
If you press a WAKE-UP switch (1 or 2) to turn off the indication, then the timer will not operate. However, since the settings remain stored in memory, you can press the switch again to reactivate the timer.

About the SNOOZE function

After timer playback begins, you can press the remote control unit's SNOOZE key to turn the power off one time; it comes back on after approx. 5 minutes.

NOTE:
Power will stay off and play will not resume after 5 minutes if SNOOZE key is pressed when there is less than 5 minutes time remaining in the timer setting.

TIMER RECORDING

(Use tuner for timer setting.)

This allows unattended recording of radio broadcasts, recording from a CD and tape copying.
CD timer recording uses A.S.E.S. operation.

- The timer recording mode is deactivate after it has been performed once.

NOTE:

- *Check to see that the cassette's accidental erasure prevention tabs have not been removed.*
- *To prevent loud music reproduction while you are away, set the volume to zero for timer recording, and select VOL-✻ as the timer volume setting.*

[Timer setting example] (See page 4, diagram 12)

1. **Insert the tape to be recorded in Deck II.**
   Timer recording begins in the forward direction (▷) so be careful which way you put in the tape.
2. **Set DOLBY NR switch ⑳ on the cassette tape deck to the position of your choice.**
3. **Set REV MODE switch ㉘ on the cassette tape deck.**
   To record on both sides of the tape, be sure to load the tape with the forward side facing forward. The tape will stop automatically when the end of the reverse side is reached.
4. **Press SET switch ⑧ and then (within 5 seconds) press the timer REC switch ⑦.**

The rest of the procedure is the same as steps 2 through 13 of the "TIMER PLAYBACK" procedure on page 22. Set the recording source to TUNER, CD or TAPE.
If you select CD, then be sure to load a compact disc.
If you select TAPE, put a tape to be played back in Deck I, put a tape to be recorded in Deck II, and set the DOLBY NR switch and REV MODE switch.

[Activating the timer for recording]

14. **Press the timer REC switch ⑦.**
    The timer REC indicator lights.
15. **If power is on, turn it off.**
    Recording begins automatically at the selected time even if you do not turn off the power.

To check timer recording settings

Press CHECK switch ② and then (within 5 seconds) press the timer REC switch ⑦. The display will show sequentially the timer settings.

To change timer recording settings

- To change all of the timer settings, start over again, inputting the settings that you want.
- To change only one of the timer settings (after pressing SET and REC switches), press SET switch repeatedly until the display shows the item that you wish to change. Then use "−" and "+" switches to adjust the setting. Finally, repeatedly press SET switch to advance to the end of the procedure.

If you make a mistake while setting the timer

Go ahead to the next item and continue setting the various items until you finish. Then use the "To change timer recording settings" procedure to change the value of the item that was incorrect.

Turning timer on and off

Confirm that REC is lit on the tuner display.
Timer recording ends after being performed once. However, since the settings remain stored in memory, you can reactivate the timer by pressing the timer REC switch so that REC is lit again.

About timer setting priority:

ON time: REC timer takes top priority. If WAKE-UP 1 and WAKE-UP 2 are both at the same ON times, then WAKE-UP 1 has priority.
OFF time: REC timer takes top priority. Later time takes priority between WAKE-UP 1 and WAKE-UP 2. SLEEP TIMER takes priority over WAKE-UP timer.

MAINTENANCE

CLEANING THE HEAD SECTION

The heads, capstan and pinch roller are parts which are liable to get dirty quite easily. In particular, if the heads are dirty, the high frequency components of the sound will not be reproduced and the stereo balance will be impaired, resulting in a deterioration of sound quality. It is therefore recommended that the head section be cleaned regularly.

- Press EJECT switch to open the cassette door.
- Dip a cleaning swab into head cleaning fluid and use it to wipe the head, capstan, and pinch rollers. Wait 2—3 minutes till cleaning fluid dries.

See diagram 13 on page 4.

① Head ② Capstan ③ Pinch roller

NOTE:

- *This unit uses a head-slant standby system, with the result that the heads are mounted at an angled position.*

DEMAGNETIZING THE HEAD

The recording/playback head becomes magnetized when you use the tape deck for prolonged periods of time. This results in noise being generated and the treble dropping off during recording and playback. The recording/playback head should therefore be demagnetized regularly with a commonly sold head demagnetizer.
For further details, refer to the operating instructions accompanying your head demagnetizer.

NOTE:

- *Do not hold screwdriver, metal objects or magnets close to the heads.*
- *When demagnetizing the heads, be sure the unit's POWER switch is in the STANDBY position.*

CLEANING THE UNIT

Wipe the front panel and the cassette door when dusty or greasy with a soft, moist cloth. Then wipe with a dry cloth. Never use volatile spirits like thinners, benzine or alcohol, as they will damage the panel's finish.

REPLACING THE STYLUS

1. **Remove the stylus gently. (See diagram 14 on page 4.)**
2. **Attach the new stylus to the cartridge.**
   ① Cartridge ② Stylus

NOTE:

- *The service life of the stylus on the supplied cartridge ranges from 800 to 1,000 hours. (After about one year if you play records about two hours everyday. However, the stylus may need to be replaced earlier depending on the way it is used.)*
- *Using a worn or damaged stylus can damage your records and distort the sound reproduction. Remember to replace the stylus at the earliest possible date.*
- *Always use the PIONEER "PN-210" as a replacement stylus.*
- *Always ask for a genuine PIONEER replacement stylus.*

PRECAUTION:

If the turntable is placed directly on or very close to a speaker, the vibrations from the speaker may be transported to the tonearm's cartridge, thus causing feedback howling. Be sure that speakers are placed sufficiently away from the turntable.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Cassette tape deck amplifier

Symptom	Cause	Remedy
Power switch is on but power does not turn on.	• AC cord is unplugged.	• Plug power cord into wall socket.
No sound from speakers.	• Volume is turned all the way down. • Speaker cords are disconnected. • Speaker cords are connected with vinyl insulation still on. • Input selector is not set to your desired listening source. • Connection cords are not connected or are damaged.	• Raise volume knob setting. • Connect speaker cords correctly. • Strip vinyl insulation from speaker wire tips before connecting. • Select correct input selector. • Connect correctly or replace with good quality cords.
Sound from only one speaker.	• One of the speaker cords is disconnected or damaged. • Incorrect Balance setting.	• Connect correctly or replace with good quality cord. • Set Balance to centre position.
Screeching or howling sound heard during mic mixing.	• Microphone angle is bad. • Microphone is too close to speaker. • Volume is too loud.	• Change microphone angle. • Move microphone further away from speakers. • Reduce volume.
Tape does not move.	• Deck is in pause mode. • Cassette inserted incorrectly.	• Press PAUSE or PLAY switch. • Put cassette properly in holder.
No sound heard from tape.	• Input selector not set to TAPE. • Playing unrecorded tape.	• Set to TAPE. • Play a recorded tape.
Tape sounds unclear, not loud enough.	• Dirty head.	• Clean head.
Can not record.	• Erasure prevention tabs are broken off. • Dirty head.	• Apply adhesive tape over tab holes. • Clean head.
Can not copy tape.	• One deck has no tape loaded. • Tape in DECK II has erasure prevention tabs broken off.	• Load tapes in both decks. • Use cassette that can be recorded on.
Treble tones unclear.	• Dirty head. • DOLBY NR system is ON when listening to a tape recorded without DOLBY NR.	• Clean head. • Use same noise reduction system for playback as for recording. (Do not play tapes recorded with different NR systems.)
Treble tones too strong.	• Tape recorded with DOLBY NR but played without.	• Play in same condition as recording. (Turn on DOLBY NR switch for recorded tapes with DOLBY NR.)
Strange sounds heard (or recorded from) tape, CD, or radio.	• TV is on. • This unit is too close to TV.	• Turn off TV. • Move TV away until interference stops. • Copy using NORMAL instead of HIGH speed.
Music Search does not work.	• No 4-second space.	• Use tape with 4-second space between songs.
Graphic equalizer has no effect.	• CD DIRECT or DAT DIRECT switch is on.	• Graphic equalizer can not be used when CD DIRECT or DAT DIRECT is on.
CD Auto Function does not work.	• Control cord not connected.	• Securely connect control cord and audio cord.

Tuner

Symptom	Cause	Remedy
No reception.	• Antenna not connected. • Wrong radio band. • Station not tuned in. • Input selector not set to TUNER.	• Connect antenna correctly. • Set to desired radio band. • Tune in station. • Set to TUNER.
Beat noise heard.	• TV is on. • Loop antenna position bad.	• Turn off TV or move TV away. • Change loop antenna position.
Noise heard.	• Interference from nearby fluorescent light, hair dryer, or other electrical appliance. • Not tuned in correctly.	• Stop using device causing interference. • Use tuner controls to tune in station.
No FM reception.	• Antenna not connected. • Wrong radio band.	• Connect antenna correctly. • Set to desired radio band.
Sound is distorted.	• Antenna in poor position. • Broadcast is weak. • Interference from other electrical devices or multipath reception.	• Change antenna position. • Use external antenna. • Change antenna position.

Remote Control Unit

Remote control does not work.	• Batteries are dead or no batteries in remote control unit. • Poor angle or too great a distance from the remote sensor window. • There is an obstacle between you and the remote sensor window. • For CD player, the remote control cord is not connected. • A fluorescent light is shining on the remote sensor window.	• Insert new batteries. • Use within seven meters and within a 30 degree angle of the remote sensor window. • Change your position or move the obstacle. • Correctly connect remote control cord. • Turn off the light.

Clock and Timer

No time indication.	• There was a power blackout. • AC plug was pulled.	• Set time again. • Set time again.
Timer does not work.	• Current time is not set. • Start and/or stop time is not set. • Timer is not on.	• Set current time. • Set ON and OFF times. • To use timer, press the timer selector switch so that the timer display lights.

Turntable

Platter does not turn.	• Belt is off.	• Put belt correctly on platter.
No sound.	• Input selector not set to PHONO.	• Set to PHONO.
Noise or scratchy sounds.	• Dust on record. • Scratch on record.	• Clean record. • Use good record.

Abnormal functioning of this unit may be caused by lightning, static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

SPECIFICATIONS

Cassette tape deck amplifier: DC-Z93

Amplifier Section

Continuously Average Power Output is 50 Watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz, with no more than 0.4 % total harmonic distortion.

** Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.*

Music power ..... 90 W + 90 W (1 kHz, T.H.D. 1 %, 8 Ω)
Music power (DIN) ..... 90 W + 90 W (1 kHz, T.H.D. 1 %, 8 Ω)
Peak music power ..... 500 W (1kHz, 10%, 6Ω)
Continuous Power Output (DIN) ..... 60 W + 60 W (1 kHz, T.H.D. 1 %, 8 Ω)
Graphic equalizer frequency band ..... 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz, ±7 dB
Signal-to-Noise Ratio (IHF, short-circuited, A network)
PHONO ..... 72 dB
Signal-to-Noise Ratio (DIN, continuous Power/50 mW)
PHONO ..... 68 dB/60 dB
Total Harmonic Distortion
(40 Hz to 20,000 Hz, 30 W, 8 ohms)** ..... No more than 0.2 %

Tape Deck Section

Systems ..... 4 track, 2-channel stereo
Heads ..... Recording/playback head x 2
Erasing head x 2
Motor ..... DC servo 2 speed motor x 2
Wow and Flutter ..... No more than 0.09 % (WRMS)
Fast Winding Time ..... Approximately 95 seconds (C-60 tape)
Frequency Response (−20 dB recording):
Normal tape ..... 35 Hz to 14,000 Hz ±6 dB
CrO_2 tape ..... 35 Hz to 15,000 Hz ±6 dB
Metal tape ..... 35 Hz to 16,000 Hz ±6 dB
Signal-to-Noise ratio
Dolby NR OFF ..... 56 dB (EIAJ)
Noise Reduction Effect
Dolby B type NR ON ..... More than 10 dB (at 5 kHz)
Dolby C type NR ON ..... More than 17 dB (at 5 kHz)

Furnished Parts

Operating Instructions 1
Remote control unit 1
Dry cell batteries 2

Miscellaneous

Power requirements
U.K. and Australian models ..... a.c. 240 Volts~, 50/60 Hz
Other destination models
..... AC 110/120—127/220/240 V (switchable) 50/60 Hz
Power Consumption ..... 426 W
Dimensions ..... 360 (W) x 356 (H) x 329 (D) mm
14-3/16 (W) x 14 (H) x 12-15/16 (D) in
Weight (without package) ..... 10.5 kg (23 lb 2 oz)

FM/AM tuner: F-Z93(L)

FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono: 12.8 dBf, IHF (1.2 μV/75 Ω)
Sensitivity (DIN) ..... Mono S/N 26 dB: 1 μV/75 Ω
Stereo S/N 46 dB: 35 μV/75 Ω
Signal-to-Noise Ratio (IHF, 85 dBf Input) ..... Mono: 77 dB
Signal-to-Noise Ratio (DIN) ..... Mono: 66 dB
Stereo: 60 dB
Distortion ..... Stereo: 0.5 % (1kHz)
Antenna Input ..... 75 ohms unbalanced

MW (AM) Tuner Section

Frequency range
With 10 kHz step ..... 530 kHz to 1,700 kHz
With 9 kHz step ..... 531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna) ..... 350 μV/m
Antenna ..... Loop Antenna
Output Level (AM 30 % MOD) ..... 150 mV

LW Tuner Section
(For LW-equipped models only)

Frequency range ..... 153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna) ..... 1500 μV/m
Antenna ..... Loop Antenna
Output Level (AM 30 % MOD) ..... 150 mV

Miscellaneous

Dimensions ..... 360 (W) x 68 (H) x 316 (D) mm
14-3/16 (W) x 2-11/16 (H) x 12-7/16 (D) in
Weight (without package) ..... 2.2 kg (4 lb 14 oz)

Furnished Parts

FM T-type Antenna 1
AM Loop Antenna 1

Turntable: PL-Z93

Motor, Platter

Motor Type ..... DC servo motor
Drive Method ..... belt drive
Speed ..... 33-1/3, 45 RPM
Wow and Flutter ..... 0.07 % WRMS (JIS)
±0.10 % WTD Peak (DIN)
Signal-to-Noise Ratio ..... 63 dB (DIN-B)
Platter ..... 295 mm dia., aluminum die-cast

Tonearm

Type ..... Dynamic balance type, straight tonearm

Installed Cartridge

Type ..... MM Type
Stylus ..... 0.6 mil diamond
Replacement Stylus PN-210
Output voltage ..... 2.5 mV (1 kHz, 5 cm/s, Lat. peak)
Tracking Force ..... 2.0 — 3.0 g (optimum 2.5 g)
Frequency Response ..... 20 Hz to 25,000 Hz
Load Resistance ..... 47 kΩ
Cartridge Weight ..... 4 g

Other

Dimensions ..... 360 (W) x 90 (H) x 359.5 (D) mm
14-3/16 (W) x 3-9/16 (H) x 14-1/8 (D) in
Weight ..... 2.7 kg (5 lb 15 oz)

Accessories

EP Adaptor 1

- *Specifications and design subject to possible modification without notice due to improvement.*

*** Measured By Audio Spectrum Analyzer.*

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc,. on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

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